Semantic Enhanced Blockchain Technology For Smart Cities

This open access book constitutes the refereed proceedings of the 15th International Conference on Semantic Systems, SEMANTiCS 2019, held in Karlsruhe, Germany, in September 2019. The 20 full papers and 8 short papers presented in this volume were carefully reviewed and selected from 88 submissions. They cover topics such as: web semantics and linked (open) data; machine learning and deep learning techniques; semantic information management and knowledge integration; terminology, thesaurus and ontology management; data mining and knowledge discovery; semantics in blockchain and distributed ledger technologies.

Every industry will be positively affected by blockchain and AI technology at some point. However, blockchain is a misunderstood technology within the publishing realm. The scholarly publishing industry can significantly improve the flow of research, drive down costs, and introduce new efficiencies in the publishing industry with these new technologies. The scholarly publishing industry is in its early days of the digital transformation, and blockchain and AI

technology could play a major role in this. However, the industry has been resistant to change. These reasons include but are not limited to staying with legacy systems, cost of new platforms, changing cultures, and understanding and adopting new technologies. With proper research and information provided, the publishing industry can adopt these technologies for beneficial advancements and the generation of a bright future. Transforming Scholarly Publishing With Blockchain Technologies and AI explores the changing landscape of scholarly publishing and how blockchain technologies and AI are slowly being integrated and used within the industry. This book covers both the benefits and challenges of implementing technology and provides both cases and new developments. Topics highlighted include business model developments, new efficiencies in scholarly publishing, blockchain in research libraries, knowledge discovery, and blockchain in academic publishing. This book is a valuable reference tool for publishers, IT specialists, technologists, publishing vendors, researchers, academicians, and students who are interested in how blockchain technologies and AI are transforming and developing a modern scholarly publishing industry. This open access book constitutes the refereed proceedings of the 18th International Conference on String Processing and Information Retrieval, ICOST 2020, held in Hammamet, Tunisia, in June 2020.* The 17 full papers and 23 short

papers presented in this volume were carefully reviewed and selected from 49 submissions. They cover topics such as: IoT and AI solutions for e-health; biomedical and health informatics; behavior and activity monitoring; behavior and activity monitoring; and wellbeing technology. *This conference was held virtually due to the COVID-19 pandemic.

NCA is a successful series of conferences that serves as a large international forum for presenting and sharing recent research results and technological developments in the fields of Network and Cloud Computing NCA, which is sponsored by the IEEE Computer Society, reaches out to both researchers and practioners, and to both academia and industry The conference features keynotes, technical presentations, and workshops

Blockchain relies on distributed databases that give an alterable and semipublic record of digital transactions. Blockchain in learning should address theoretical, practical, and technical issues, but it must also consider the philosophy behind interactive blockchain in learning. While the applications of blockchain have been the subject of serious academic research, there must be more continuous and multicultural attention paid to the impact of the latest management, communication, pedagogy, technology, and evaluation-based developments of blockchain in learning. Blockchain Technology Applications in Education is an

essential scholarly publication that scrutinizes how open universities establish a blockchain network for decentralized learning. This book will explore a variety of new management models, communicational actions, pedagogical approaches, new technologies, and evaluation models. There will be new trends, patterns, and customs of blockchain in learning drawn from the distinctive improvements in learning milieus. Highlighting a range of topics such as corporate education, lifelong learning, and social media, this book is essential for academicians, curriculum designers, instructional designers, IT consultants, administrators, researchers, and students.

As industries are rapidly being digitalized and information is being more heavily stored and transmitted online, the security of information has become a top priority in securing the use of online networks as a safe and effective platform. With the vast and diverse potential of artificial intelligence (AI) applications, it has become easier than ever to identify cyber vulnerabilities, potential threats, and the identification of solutions to these unique problems. The latest tools and technologies for AI applications have untapped potential that conventional systems and human security systems cannot meet, leading AI to be a frontrunner in the fight against malware, cyber-attacks, and various security issues. However, even with the tremendous progress AI has made within the sphere of security,

it’s important to understand the impacts, implications, and critical issues and challenges of AI applications along with the many benefits and emerging trends in this essential field of security-based research. Research Anthology on Artificial Intelligence Applications in Security seeks to address the fundamental advancements and technologies being used in AI applications for the security of digital data and information. The included chapters cover a wide range of topics related to AI in security stemming from the development and design of these applications, the latest tools and technologies, as well as the utilization of AI and what challenges and impacts have been discovered along the way. This resource work is a critical exploration of the latest research on security and an overview of how AI has impacted the field and will continue to advance as an essential tool for security, safety, and privacy online. This book is ideally intended for cyber security analysts, computer engineers, IT specialists, practitioners, stakeholders, researchers, academicians, and students interested in AI applications in the realm of security research.

In recent years, the surge of blockchain technology has been rising due to is proven reliability in ensuring secure and effective transactions, even between untrusted parties. Its application is broad and covers public and private domains varying from traditional communication networks to more modern networks like

the internet of things and the internet of energy crossing fog and edge computing, among others. As technology matures and its standard use cases are established, there is a need to gather recent research that can shed light on several aspects and facts on the use of blockchain technology in different fields of interest. Enabling Blockchain Technology for Secure Networking and Communications consolidates the recent research initiatives directed towards exploiting the advantages of blockchain technology for benefiting several areas of applications that vary from security and robustness to scalability and privacy-preserving and more. The chapters explore the current applications of blockchain for networking and communications, the future potentials of blockchain technology, and some not-yet-prospected areas of research and its application. This book is ideal for practitioners, stakeholders, researchers, academicians, and students interested in the concepts of blockchain technology and the potential and pitfalls of its application in different utilization domains.

This book explores recent advances in blockchain technology and its impact on Industry 4.0 via advanced technologies. It provides an in-depth analysis of the step by step evolution of Industry 4.0 and blockchain technologies for creating the next-generation, secure, decentralized, distributed and trusted industry environment and enhancing the productivity of industries. The book describes

how blockchain technology makes the industrial internet (Industry 4.0) a transparent, reliable and secure environment for people, processes, systems, and services, presenting a strong, technological and conceptual framework and roadmap for decision-makers involved in the transformation of any area of industry.

Advanced Concepts, Methods, and Applications in Semantic Computing

This book discusses the recent advances in natural computation, fuzzy systems and knowledge discovery. Presenting selected, peer-reviewed papers from the 15th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD 2019), held in Kunming, China, from 20 to 22 July 2019, it is a useful resource for researchers, including professors and graduate students, as well as R&D staff in industry.

This open access book presents the foundations of the Big Data research and innovation ecosystem and the associated enablers that facilitate delivering value from data for business and society. It provides insights into the key elements for research and innovation, technical architectures, business models, skills, and best practices to support the creation of data-driven solutions and organizations. The book is a compilation of selected high-quality chapters covering best practices, technologies, experiences, and practical recommendations on

research and innovation for big data. The contributions are grouped into four parts: · Part I: Ecosystem Elements of Big Data Value focuses on establishing the big data value ecosystem using a holistic approach to make it attractive and valuable to all stakeholders. · Part II: Research and Innovation Elements of Big Data Value details the key technical and capability challenges to be addressed for delivering big data value. · Part III: Business, Policy, and Societal Elements of Big Data Value investigates the need to make more efficient use of big data and understanding that data is an asset that has significant potential for the economy and society. · Part IV: Emerging Elements of Big Data Value explores the critical elements to maximizing the future potential of big data value. Overall, readers are provided with insights which can support them in creating data-driven solutions, organizations, and productive data ecosystems. The material represents the results of a collective effort undertaken by the European data community as part of the Big Data Value Public-Private Partnership (PPP) between the European Commission and the Big Data Value Association (BDVA) to boost data-driven digital transformation.

As we enter the Industrial Revolution 4.0, demands for an increasing degree of trust and privacy protection continue to be voiced. The development of blockchain technology is very important because it can help frictionless and

transparent financial transactions and improve the business experience, which in turn has far-reaching effects for economic, psychological, educational and organizational improvements in the way we work, teach, learn and care for ourselves and each other. Blockchain is an eccentric technology, but at the same time, the least understood and most disruptive technology of the day. This book covers the latest technologies of cryptocurrencies and blockchain technology and their applications. This book discusses the blockchain and cryptocurrencies related issues and also explains how to provide the security differently through an algorithm, framework, approaches, techniques and mechanisms. A comprehensive understanding of what blockchain is and how it works, as well as insights into how it will affect the future of your organization and industry as a whole and how to integrate blockchain technology into your business strategy. In addition, the book explores the blockchain and its with other technologies like Internet of Things, big data and artificial intelligence, etc.

This book constitutes revised selected papers from the 14th International Global Sourcing Workshop 2019, held in Obergurgl, Austria, in December 2019. The 10 contributions included were carefully reviewed and selected from a total of 36 submissions. The book offers a review of the key topics in sourcing of services, populated with practical frameworks that serve as a tool kit to students and

managers. The range of topics covered in this book is wide and diverse, offering various perspectives on the employment of digital technologies in the context of sourcing services. More specifically the book examines sourcing decisions and management practices around digital platforms, robotic process automation and blockchain, giving specific attention to digital aspects of innovation in sourcing. This book offers an essential guide to IoT Security, Smart Cities, IoT Applications, etc. In addition, it presents a structured introduction to the subject of destination marketing and an exhaustive review on the challenges of information security in smart and intelligent applications, especially for IoT and big data contexts. Highlighting the latest research on security in smart cities, it addresses essential models, applications, and challenges. Written in plain and straightforward language, the book offers a self-contained resource for readers with no prior background in the field. Primarily intended for students in Information Security and IoT applications (including smart cities systems and data heterogeneity), it will also greatly benefit academic researchers, IT professionals, policymakers and legislators. It is well suited as a reference book for both undergraduate and graduate courses on information security approaches, the Internet of Things, and real-world intelligent applications. Information Technology for Management, 12 Edition provides students with a

comprehensive understanding of the latest technological developments in IT and the critical drivers of business performance, growth, and sustainability. Integrating feedback from IT managers and practitioners from top-level organizations worldwide, the newest edition of this well-regarded textbook features thoroughly revised content throughout to present students with a realistic, up-to-date view of IT management in the current business environment. The text offers a flexible, student-friendly presentation of the material through a pedagogy that is designed to help students with different learning styles easily comprehend and retain information. This blended learning approach combines visual, textual, and interactive content—featuring numerous real-world case studies of how businesses use IT to increase efficiency and productivity, strengthen collaboration and communication, and maximize their competitive advantage. Students learn how IT is leveraged to reshape enterprises, engage and retain customers, optimize systems and processes, manage business relationships and projects, and more.

This book covers IoT and Big Data from a technical and business point of view. The book explains the design principles, algorithms, technical knowledge, and marketing for IoT systems. It emphasizes applications of big data and IoT. It includes scientific algorithms and key techniques for fusion of both areas. Real

case applications from different industries are offering to facilitate ease of understanding the approach. The book goes on to address the significance of security algorithms in combing IoT and big data which is currently evolving in communication technologies. The book is written for researchers, professionals, and academicians from interdisciplinary and transdisciplinary areas. The readers will get an opportunity to know the conceptual ideas with step-by-step pragmatic examples which makes ease of understanding no matter the level of the reader.
"The book provides a sound theoretical foundation for the application of semantic methods, concepts, technologies for practical problem solving offering original research on advanced concepts, methods, algorithms, technologies, and applications of semantic computing in real-world situations"--
Blockchain Technology and the Law: Opportunities and Risks is one of the first texts to offer a critical analysis of Blockchain and the legal and economic challenges faced by this new technology. This book will offer those who are unfamiliar with Blockchain an introduction as to how the technology works and will demonstrate how a legal framework that governs it can be used to ensure that it can be successfully deployed. Discussions included in this book: - an introduction to smart contracts, and their potential, from a commercial and consumer law perspective, to change the nature of transactions between parties;

- the impact that Blockchain has already had on financial services, and the possible consumer risks and macro-economic issues that may arise in the future; - the challenges that are facing global securities regulators with the development of Initial Coin Offerings and the ongoing risks that they pose to the investing public; - the risk of significant privacy breaches due to the online public nature of Blockchain; and - the future of Blockchain technology. Of interest to academics, policy-makers, technology developers and legal practitioners, this book will provide a thorough examination of Blockchain technology in relation to the law from a comparative perspective with a focus on the United Kingdom, Canada and the United States.

Examining the changing nature of cities in the face of smart technology, this book studies key new challenges and capabilities defined by the Internet of Things, data science, blockchain and artificial intelligence. It argues that using algorithmic logic alone for automation and optimisation in modern smart cities is not sufficient, and analyses the importance of integrating this with strong participatory governance and digital platforms for community action.

The 8th Annual Financial Cryptography Conference was held during 9-12 February 2004 in Key West, Florida, USA. The conference was organized by the - international Financial Cryptography Association (IFCA). The program

committee, which comprised 25 members, reviewed 78 submissions, of which only 17 were accepted for presentation at the conference. This year's conference differed somewhat from those of previous years in its consideration of papers devoted to implementation, rather than purely conceptual research; one of these submissions was presented at the conference. This represented a movement in the conference toward practical problems and real-world perspectives as a complement to more traditional academic forms of research. In this spirit, the program included a number of excellent invited speakers. In the opening talk of the conference, Jack Selby threw down the gauntlet, - scribing some of the achievements of the PayPal system, but also enumerating reasons for the failures of many elegant e-cash schemes in the past. Ron Rivest, in contrast, described an emerging success in the cleverly conceived Peppercoin micropayment system. Jacques Stern enlightened us with his experience in the cryptographic design of banking cards in France. Simon Pugh unveiled some - tails of anew generation of wireless credit card. Finally,in deference to the many consumers in the world lacking either techno-savvy or technological resources that we often too easily take for granted, Jon Peha described a elded banking system that avoids reliance on conventional financial infrastructures. Thanks to all of these speakers for rounding out the conference with their expertise and

breadth of vision.

This book discusses the various open issues of blockchain technology, such as the efficiency of blockchain in different domains of digital cryptocurrency, smart contracts, smart education system, smart cities, cloud identity and access, safeguard to cybersecurity and health care. For the first time in human history, people across the world can trust each other and transact over a large peer-to-peer networks without any central authority. This proves that, trust can be built not only by centralized institution but also by protocols and cryptographic mechanisms. The potential and collaboration between organizations and individuals within peer networks make it possible to potentially move to a global collaborative network without centralization. Blockchain is a complex social, economic and technological phenomenon. This questions what the established terminologies of the modern world like currency, trust, economics and exchange would mean. To make any sense, one needs to realize how much insightful and potential it is in the context and the way it is technically developed. Due to rapid changes in accessing the documents through online transactions and transferring the currency online, many previously used methods are proving insufficient and not secure to solve the problem which arises in the safe and hassle-free transaction. Nowadays, the world changes rapidly, and a transition flow is also

seen in Business Process Management (BPM). The traditional Business Process Management holds good establishment last one to two decades, but, the internal workflow confined in a single organization. They do not manage the workflow process and information across organizations. If they do so, again fall in the same trap as the control transfers to the third party that is centralized server and it leads to tampering the data, and single point of failure. To address these issues, this book highlights a number of unique problems and effective solutions that reflects the state-of-the art in blockchain Technology. This book explores new experiments and yields promising solutions to the current challenges of blockchain technology. This book is intended for the researchers, academicians, faculties, scientists, blockchain specialists, business management and software industry professionals who will find it beneficial for their research work and set new ideas in the field of blockchain. This book caters research work in many fields of blockchain engineering, and it provides an in-depth knowledge of the fields covered.

Blockchain is emerging as a powerful technology, which has attracted the wider attention of all businesses across the globe. In addition to financial businesses, IT companies and business organizations are keenly analyzing and adapting this technology for improving business processes. Security is the primary enterprise

application. There are other crucial applications that include creating decentralized applications and smart contracts, which are being touted as the key differentiator of this pioneering technology. The power of any technology lies in its ecosystem. Product and tool vendors are building and releasing a variety of versatile and robust toolsets and platforms in order to speed up and simplify blockchain application development, deployment and management. There are other infrastructure-related advancements in order to streamline blockchain adoption. Cloud computing, big data analytics, machine and deep learning algorithm, and connected and embedded devices all are driving blockchain application development and deployment. Blockchain Technology and Applications illustrates how blockchain is being sustained through a host of platforms, programming languages, and enabling tools. It examines: Data confidential, integrity, and authentication Distributed consensus protocols and algorithms Blockchain systems design criteria and systems interoperability and scalability Integration with other technologies including cloud and big data It also details how blockchain is being blended with cloud computing, big data analytics and IoT across all industry verticals. The book gives readers insight into how this path-breaking technology can be a value addition in several business domains ranging from healthcare, financial services, government, supply chain and retail.

This book brings together a series of contributions by leading scholars and practitioners to examine the main features of smart contracts, as well as the response of key stakeholders in technology, business, government and the law. It explores how this new technology interfaces with the goals and content of contract law, introducing and evaluating several mechanisms to improve the 'observability' and reduce the costs of verifying contractual obligations and performance. It also outlines various 'design patterns' that ensure that end users are protected from themselves, prevent cognitive accidents, and translate expectations and values into more user-oriented agreements. Furthermore, the chapters map the new risks associated with smart contracts, particularly for consumers, and consider how they might be alleviated. The book also discusses the challenge of integrating data protection and privacy concerns into the design of these agreements and the broad range of legal knowledge and skills required. The case for using smart contracts goes beyond 'contracts' narrowly defined, and they are increasingly used to disrupt traditional models of business organisation. The book discusses so-called decentralised autonomous organisations and decentralised finance as illustrations of this trend. This book is designed for those interested in looking to deepen their understanding of this game-changing new legal technology.

This book includes proceedings of the 15th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2021), which took place in Asan, Korea, on July 1-3, 2021. With the proliferation of wireless technologies and electronic devices, there is a fast-growing interest in Ubiquitous and Pervasive Computing (UPC). The UPC enables to create a human-oriented computing environment where computer chips are embedded in everyday objects and interact with physical world. Through UPC, people can get online even while moving around, thus, having almost permanent access to their preferred services. With a great potential to revolutionize our lives, UPC also poses new research challenges. The aim of the book is to provide the latest research findings, methods, development techniques, challenges, and solutions from both theoretical and practical perspectives related to UPC with an emphasis on innovative, mobile, and Internet services.

The book aims to showcase the basics of both IoT and Blockchain for beginners as well as their integration and challenge discussions for existing practitioner. It aims to develop understanding of the role of blockchain in fostering security. The objective of this book is to initiate conversations among technologists, engineers, scientists, and clinicians to synergize their efforts in producing low-cost, high-performance, highly efficient, deployable IoT systems. It presents a stepwise discussion, exhaustive literature survey, rigorous experimental analysis and discussions to demonstrate the usage of blockchain technology for securing

communications. The book evaluates, investigate, analyze and outline a set of security challenges that needs to be addressed in the near future. The book is designed to be the first reference choice at research and development centers, academic institutions, university libraries and any institutions interested in exploring blockchain. UG/PG students, PhD Scholars of this fields, industry technologists, young entrepreneurs and researchers working in the field of blockchain technology are the primary audience of this book.

Besides love, money and health are the most valuable human yearnings. Therefore, blockchain technology is paramount: a new foundation of confidence for human valuable transactions. Like information sharing was catalyzed on the pre-blockchain internet, transactions are now triggered on the new internet of value. In this second digital inflection point, economic media encompasses value beside information, and individuals can privately transact digital assets for the first time in history. Decentralized but structured organizations running on blockchain networks reduce transaction costs and are particularly competitive insofar as they guarantee data authenticity, confidentiality, and integrity, providing functional autonomy with disintermediation and smart contracts. Everything changed after user data were made public on the internet and privately traded by big tech companies, and nothing will be the same once that data is made private on the internet and publicly transacted by their rightful owners. While the internet of information reshaped the world, the internet of value will reform it, and everything will depend politically on this being done freely. Political and Economic Implications of Blockchain Technology in Business and Healthcare provides relevant theoretical frameworks on the civilizational impact of blockchain technology, which redesigns human interactions concerning value transactions. It gives ideas, concepts, and instruments to

advance the knowledge on cryptoeconomics and decentralized governance in the new distributed trust paradigm. The chapters explore the ethical repercussions and profound political-economic consequences to society, providing insights into business applications focusing on the healthcare sector. In a blockchain era affected by the post-COVID-19 new normal, which mixes politics, economics, and health, this book is essential for students and researchers in social and life sciences; professionals and policymakers working in the fields of public and business administration; and healthcare workers and researchers, academicians, and students interested in blockchain technology and its political and economic impacts in the industry and society.

Web Semantics strengthen the description of web resources to exploit them better and make them more meaningful for both humans and machines, thereby contributing to the development of a knowledgeintensive data web. The world is experiencing the movement of concept from data to knowledge and the movement of web from document model to data model. The underlying idea is making the data machine understandable and processable. In the light of these trends, conciliation of Semantic and the Web is of paramount importance for further progress in the area. Web Semantics: Cutting Edge and Future Directions in Healthcare describes the three major components of the study of Semantic Web, namely Representation, Reasoning, and Security with a special focus on the healthcare domain. This book summarizes the trends and current research advances in web semantics, emphasizing the existing tools and techniques, methodologies, and research solutions. It provides easily comprehensible information on Web Semantics including semantics for data and semantics for services. Presents a comprehensive examination of the emerging research in areas of the semantic

web, including ontological engineering, semantic annotation, reasoning and intelligent processing, semantic search paradigms, semantic web mining, and semantic sentiment analysis Helps readers understand key concepts in semantic web applications for biomedical engineering and healthcare, including mapping disparate knowledge bases, security issues, multilingual semantic web, and integrating databases with knowledge bases Includes coverage of key application areas of the semantic web, including clinical decision-making, biodiversity science, interactive healthcare, intelligent agent systems, decision support systems, and clinical natural language processing

This book constitutes the thoroughly refereed proceedings of the Second International Conference on Machine Learning for Networking, MLN 2019, held in Paris, France, in December 2019. The 26 revised full papers included in the volume were carefully reviewed and selected from 75 submissions. They present and discuss new trends in deep and reinforcement learning, pattern recognition and classification for networks, machine learning for network slicing optimization, 5G system, user behavior prediction, multimedia, IoT, security and protection, optimization and new innovative machine learning methods, performance analysis of machine learning algorithms, experimental evaluations of machine learning, data mining in heterogeneous networks, distributed and decentralized machine learning algorithms, intelligent cloud-support communications, ressource allocation, energy-aware communications, software de ned networks, cooperative networks, positioning and navigation systems, wireless communications, wireless sensor networks, underwater sensor networks.

If one thing catches the eye in almost all literature about (re)designing or (re)engineering of enterprises, it is the lack of a well-founded theory about their construction and operation. Often

even the most basic notions like "action" or "process" are not precisely defined. Next, in order to master the diversity and the complexity of contemporary enterprises, theories are needed that separate the stable essence of an enterprise from the variable way in which it is realized and implemented. Such a theory and a matching methodology, which has passed the test of practical experience, constitute the contents of this book. The enterprise ontology, as developed by Dietz, is the starting point for profoundly understanding the organization of an enterprise and subsequently for analyzing, (re)designing, and (re)engineering it. The approach covers numerous issues in an integrated way: business processes, in- and outsourcing, information systems, management control, staffing etc. Researchers and students in enterprise engineering or related fields will discover in this book a revolutionary new way of thinking about business and organization. In addition, it provides managers, business analysts, and enterprise information system designers for the first time with a solid and integrated insight into their daily work.

This book constitutes the thoroughly refereed proceedings of the 11th International Conference on Metadata and Semantic Research, MTSR 2017 2017, held in Tallinn, Estonia, November 28th to December 1st, 2017. The 18 full and 13 short papers presented were carefully reviewed and selected from 58 submissions. They focus on the Internet of Things (IoT) and the practical implementation of ontologies and linked data. Further topics are theoretical and foundational principles of metadata; ontologies and information organization; applications of linked data, open data, big data and user-generated metadata; digital interconnectedness; metadata standardization; authority control and interoperability in digital libraries and research data repositories; emerging issues in RDF, OWL, SKOS, schema.org, BIBFRAME, metadata

and ontology design; linked data applications for e-books; digital publishing and Content Management Systems (CMSs); content discovery services, search, information retrieval and data visualization applications.

Trade has always been shaped by technological innovation. In recent times, a new technology, Blockchain, has been greeted by many as the next big game-changer. Can Blockchain revolutionize international trade? This publication seeks to demystify the Blockchain phenomenon by providing a basic explanation of the technology. It analyses the relevance of this technology for international trade by reviewing how it is currently used or can be used in the various areas covered by WTO rules. In doing so, it provides an insight into the extent to which this technology could affect cross-border trade in goods and services, and intellectual property rights. It discusses the potential of Blockchain for reducing trade costs and enhancing supply chain transparency as well as the opportunities it provides for small-scale producers and companies. Finally, it reviews various challenges that must be addressed before the technology can be used on a wide scale and have a significant impact on international trade.

This book provides a comprehensive overview of various aspects of the development of smart cities from a secure, trusted, and reliable data transmission perspective. It presents theoretical concepts and empirical studies, as well as examples of smart city programs and their capacity to create value for citizens. The contributions offer a panorama of the most important aspects of smart city evolution and implementation within various frameworks, such as healthcare, education, and transportation. Comparing current advanced applications and best practices, the book subsequently explores how smart environments and programs could help improve the quality of life in urban spaces and promote cultural and economic development.

As internet technologies continue to advance, new types and methods of data and security breaches threaten national security. These potential breaches allow for information theft and can provide footholds for terrorist and criminal organizations. Developments in Information Security and Cybernetic Wars is an essential research publication that covers cyberwarfare and terrorism globally through a wide range of security-related areas. Featuring topics such as crisis management, information security, and governance, this book is geared toward practitioners, academicians, government officials, military professionals, and industry professionals.

This open access book constitutes the proceedings of the 7th International Conference on Principles of Security and Trust, POST 2018, which took place in Thessaloniki, Greece, in April 2018, held as part of the European Joint Conference on Theory and Practice of Software, ETAPS 2018. The 13 papers presented in this volume were carefully reviewed and selected from 45 submissions. The papers are organized in topical sections named: information flow and non-intereference; leakage, information flow, and protocols; smart contracts and privacy; firewalls and attack-defense trees.

The definitive compendium for the Insurance Digital Revolution From slow beginnings in 2014, InsurTech has captured US$7billion in investment since

2010 — a 10% annual compound growth rate is predicted until at least 2020. Three in four insurance companies believe some part of their business is at risk of disruption and understanding the trends, drivers and emerging technologies behind Insurance's Digital Revolution is a business-critical priority for all growth-minded firms. The InsurTech Book offers essential updates, critical thinking and actionable insight — globally — from start-ups, incumbents, investors, tech companies, advisors and other partners in this evolving ecosystem, in one volume. For some, Insurance is either facing an existential threat; for others, it is a sector on the brink of transforming itself. Either way, business models, value chains, customer understanding and engagement, organisational structures and even what Insurance is for, is never going to be the same. Be informed, be part of it. Learn from diverse experiences, mindsets and applications of technologies Discover new ways of defining and grasping growth opportunities Get the inside track from innovators, disruptors and incumbents Be updated on the evolution of InsurTech, why it is happening and how it will evolve Explore visions of the future of Insurance to help shape yours The InsurTech Book is your indispensable guide to a sector in transformation.

Present book covers new paradigms in Blockchain, Big Data and Machine Learning concepts including applications and case studies. It explains dead

fusion in realizing the privacy and security of blockchain based data analytic environment. Recent research of security based on big data, blockchain and machine learning has been explained through actual work by practitioners and researchers, including their technical evaluation and comparison with existing technologies. The theoretical background and experimental case studies related to real-time environment are covered as well. Aimed at Senior undergraduate students, researchers and professionals in computer science and engineering and electrical engineering, this book: Converges Blockchain, Big Data and Machine learning in one volume. Connects Blockchain technologies with the data centric applications such Big data and E-Health. Easy to understand examples on how to create your own blockchain supported by case studies of blockchain in different industries. Covers big data analytics examples using R. Includes Illustrative examples in python for blockchain creation.

This book includes the proceedings of the 15th International Conference on Complex, Intelligent, and Software Intensive Systems, which took place in Asan, Korea, on July 1-3, 2021. Software intensive systems are systems, which heavily interact with other systems, sensors, actuators, devices, and other software systems and users. More and more domains are involved with software intensive systems, e.g., automotive, telecommunication systems, embedded systems in

general, industrial automation systems, and business applications. Moreover, the outcome of web services delivers a new platform for enabling software intensive systems. Complex systems research is focused on the overall understanding of systems rather than its components. Complex systems are very much characterized by the changing environments in which they act by their multiple internal and external interactions. They evolve and adapt through internal and external dynamic interactions. The development of intelligent systems and agents, which is each time more characterized by the use of ontologies and their logical foundations build a fruitful impulse for both software intensive systems and complex systems. Recent research in the field of intelligent systems, robotics, neuroscience, artificial intelligence, and cognitive sciences is very important factor for the future development and innovation of software intensive and complex systems. The aim of the book is to deliver a platform of scientific interaction between the three interwoven challenging areas of research and development of future ICT-enabled applications: Software intensive systems, complex systems, and intelligent systems.

This book constitutes the revised selected post conference proceedings of the 15th International Workshop on Data Privacy Management, DPM 2020, and the 4th International Workshop on Cryptocurrencies and Blockchain Technology,

CBT 2020, held in conjunction with the 25th European Symposium on Research in Computer Security, ESORICS 2020, held in Guildford, UK in September 2020. For the CBT Workshop 8 full and 4 short papers were accepted out of 24 submissions. The selected papers are organized in the following topical headings: Transactions, Mining, Second Layer and Inter-bank Payments. The DPM Workshop received 38 submissions from which 12 full and 5 short papers were selected for presentation. The papers focus on Second Layer, Signature Schemes, Formal Methods, Privacy, SNARKs and Anonymity.

About the necessity and usefulness of developing a philosophy specific to the blockchain technology, emphasizing on the ontological aspects. After an Introduction that highlights the main philosophical directions for this emerging technology, in Blockchain Technology I explain the way the blockchain works, discussing ontological development directions of this technology in Designing and Modeling. The next section is dedicated to the main application of blockchain technology, Bitcoin, with the social implications of this cryptocurrency. There follows a section of Philosophy in which I identify the blockchain technology with the concept of heterotopia developed by Michel Foucault and I interpret it in the light of the notational technology developed by Nelson Goodman as a notational system. In the Ontology section, I present two developmental paths that I

consider important: Narrative Ontology, based on the idea of order and structure of history transmitted through Paul Ricoeur's narrative history